PA-138 *Linear Power Amplifier*

State of the art linear technology brings quiet, direct coupled capability to vibration and acoustic test systems.

GENERAL DESCRIPTION

The Labworks PA-138 Linear Power Amplifier is a high quality, air-cooled, direct-coupled audio amplifier primarily intended for use with small vibration systems. Although this amplifier has been designed to directly drive low impedance loads, it can be used in any application requiring continuous duty high quality audio power.

PA-138 Amplifiers feature protection from both over current and over temperature insuring long term reliability. The amplifier has full interlock capabilities as well as peak voltage and RMS current bar graphs to monitor output.

Two operational modes are incorporated in the design. These amplifiers can be used as either a wide-band, highly damped voltage source, or as a high impedance current source. DC and AC coupled signal inputs are provided. PA-138 Amplifiers are designed for standard 19 in. rack mounted installation and require 100, 120, 220 or 240V, 48 to 60 Hz power.

FEATURES

- Linear output stage provides low noise and distortion.
- Automatic over temperature and over current protection.
- Direct coupled input and output allows DC operation.
- Two operational modes, voltage or current source.
- External interlock circuitry.

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PA-138 SPECIFICATIONS*

Output Voltage (continuous)		
10 Hz to 20 KHz		
open circuit	31.0 V rms	
4Ω load	26.0	
2Ω load	23.5	
1Ω load	20.0	
DC to .1 Hz		
open circuit	45.0 Vdc/pk	
4Ω load	36.5	
2Ω load	22.0	
1Ω load	11.0	
Random Voltage Output		
2.5 sigma peak volts		
open circuit	18.0 V rms	
4Ω load	16.0	
2Ω load	15.0	
1Ω load	14.0	
3.0 sigma peak volts		
open circuit	15.0 V rms	
4Ω load	13.0	
2Ω load	12.5	
1Ω load	11.5	
Maximum continuous dissipation		
Ambient Temp =	40°C	400W
	50	200
	60	0
Frequency response (DC coupled input)		
DC to 10 KHz	-0.6 dB	
DC to 20 KHz	-2.5	
AC coupling @ 1.0 Hz	-0.5	
Slew rate	2 V/µsec	
Harmonic distortion		
(10V, DC-10k)	<0.65% @ 1Ω	
Signal/noise ratio		
(ref 20V out)	100 dB minimum	
Input impedance		
DC coupled	10 kΩ	
AC coupled	47 uF in series with 10 kΩ	
DC offset	5 mV max	
Voltage mode gain	48 (34 dB) max	
Current mode gain	22 Amps/Volt max	
Voltage source regulation	<0.1 dB (∞- 1Ω load, 30 Hz/10 V rms)	
Current source regulation	<0.1 dB (0-2Ω load, 30 Hz/10 A rms)	
Front panel controls	Power, mode switches, gain adjust	
Front panel indicators	Internal power, interlock trip	
Front panel metering		
Type	(2) 19 seg. horiz. bar graphs	
Scale		
Voltage	0-40V pk	
Current	0-16 A rms	
Resolution		
Peak voltage	5% of full scale	
True rms current	5% of full scale	
Accuracy (voltage & current)	±5% abolute	
Interlock circuit		
Type	<1 Vdc= fault or N.C. switch	
Response time	3 ms. max	
Action	Output drives to ground	
Reset	Gain pot full down or > 1.5V @ RST	
Indicator	Flashing front panel "Trip" light	
Cooling	2-speed fans	
Noise level: low/high speed	<45 dB/<55 dB (switches @ approx. 1/2 diss.)	
Self protection	Over current, over temperature	
Line protection		
Dual line fuses	(10A @ 100, 120 Vac) (5A @ 220, 240 Vac)	
Input power	1,000 VA max	
Voltage	100, 120, 220 or 240 Vac	
Frequency	48 to 62 Hz	
Dimensions	3.5" H x 19" W x 13" D	
Weight	24 lbs	

*Specifications subject to change. Consult factory for latest specifications.

PERFORMANCE GRAPHS